THE HONORABLE JAMES L. ROBART

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

BOMBARDIER INC., Plaintiff, v. MITSUBISHI AIRCRAFT CORPORATION, MITSUBISHI AIRCRAFT CORPORATION AMERICA INC., et al., Defendants.	No. 2:18-cv-1543 JLR DECLARATION OF STEPHEN BOYD REDACTED

I, Stephen Boyd, declare as follows:

1. I previously provided a declaration dated December 22, 2018, and supporting exhibits, which I understand can be found at docket #77. I discussed my background and qualifications in my December 22, 2018 declaration. I reaffirm and incorporate the opinions I expressed in my December 22, 2018 declaration.

2. Since that time, I understand that plaintiff Bombardier Inc. ("Bombardier") has filed a second motion for a preliminary injunction (the "second motion"), which I have reviewed. I understand the second motion can be found at docket #123. I also reviewed the proposed order filed with the second motion, which I understand can be found at docket #123-1. This

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declaration responds to second motion for preliminary injunction and to the proposed preliminary injunction.

3. I have personal knowledge of all the facts stated in this Declaration and, if called to, could and would testify competently thereto.

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I. List of Acronyms

1. AC: Advisory Circular
2. AIR: FAA Aircraft Certification Service
3. AWM: TCCA Airworthiness Manual (Note: AWM 525 is analogous to 14 CFR part 25)
4. CFR: US Code of Federal Regulations.
5. CS: EASA Certification
6. CRJ: Bombardier Candadair Regional Jet
7. EASA: European Union Aviation Safety Agency
8. FAA: US Federal Aviation Administration
9. FBW: Fly-By-Wire
10. JCAB: Japan Civil Aviatio Bureau
11. MITAC: Mitsubishi Aircraft Corporation
12. MOC: Method (or Mean) of Compliance
13. MRJ: Mitsubishi Regional Jet
14. ODA: Organization Designation Authorization
15. SDS: Bombardier Skew Detection System
16. STVP: Shadow Type Validation Program
17. TCCA: Transport Canada Civil Aviation

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II. The Scope of the Aircraft Certification Process and Its Relationship to Scope of the Allegations

A. Introduction

4. In this section I will discuss the overall scope of the work involved in the certification of a transport category airplane, in terms of breadth, depth and detail.

5. Definitions: In this context, I am using these terms in this way:

a. Breadth: The large number and variety of technical topics that are covered by the 14 CFR part 25 regulation and which must be addressed during certification;

b. Depth: The requirements development, airplane design work, analyses, and testing associated with design and certification is performed at many levels, from the overall performance of the airplane as a whole down to the characteristics of individual functions and components. A "snapshot" of a single aspect of the airplane at one level provides very limited insight into all the other levels of information at all the other levels.

c. Detail: The success of certification, across breadth of the regulatory topics at all levels of design, analysis, and testing, typically depends upon the details of the design. For example, understanding the overall design concept does not get a manufacturer nearer to certification when the strength of a single bolt could be a determining factor regarding whether or not a huge structural assembly like an airplane wing meets regulatory requirements. The precise, technical details (e.g. specifications, stresses, movements, etc.) of the individual components and assemblies of components are critical when determining whether or not regulatory requirements have been satisfied. The importance of design detail also applies to functional characteristics, such as those associated with sensors, software-driven systems, etc.

6. Bombardier's second motion suggests that the information in the ten exhibits to the Burns declaration (which I understand can be found at docket #5) and the one exhibit to the Tidd declaration (which I understand can be found at docket #7) (collectively, I will refer to the eleven exhibits as the "Burns and Tidd sealed exhibits") would contribute significantly to the success of

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the MRJ certification effort. In response to that assertion, it is important to understand the scope of the information in the Burns and Tidd sealed exhibits relative to the overall scope of the certification effort. In fact, the information in the Burns and Tidd sealed exhibits relates to only a tiny fraction of the overall breadth, depth, and details that form the basis for airplane certification.

B. Further descriptions of the breadth of certification

7. Exhibit M to my December 22, 2018 declaration includes a table showing the 419 individual regulations and appendices in 14 CFR part 25 that are the regulatory requirements specific to transport category airplanes. It may be helpful to provide further elaboration regarding the scope of these regulatory requirements and the certification work needed to show compliance with them.

8. The regulations in 14 CFR part 21 (see Exhibits C and D to my December 22, 2018 declaration) and the certification processes in FAA Order 8110.4C (see Exhibit B to my December 22, 2018 declaration) outline the requirements for an applicant to show compliance with 14 CFR part 25. However, a scan of Exhibits B, C, and D to my December 22, 2018 declaration is insufficient to achieve a full grasp of the breadth of the certification effort, in terms of the technical issues that are covered by the regulations, the methods used to assess whether or not the design satisfies the requirements identified in the regulations, and the means by which the results of those assessments are communicated to the regulatory authorities.

9. Technical issues: The regulations in 14 CFR part 25 cover virtually every aspect of airplane design that has a potential impact on safety. As an example, I will start from a basic concept: the materials used in the construction of the airplane. There are a wide variety of issues that are covered by regulations, depending on the materials selected and the way they are used. For the structure of the airplane, the regulations require assessment of strength, corrosion resistance, how it responds to stress (both statically and dynamically), fatigue characteristics (the tendency of materials, especially metals, to crack as a result of repeated stress) over the life of

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the airplane, etc. Then this information is applied to the specific design of each structural component, to show such things as how the structural loads will be carried normally and in the event of a failure of any critical component, and how the structural loads will be carried by redundant structures. It is important to note that this type of assessment is done for all of the structural components for the entire airplane. The structure must also be assessed to determine how/when it is to be inspected over its expected lifetime, how it can be repaired, etc.

10. Other materials used in the airplane for non-structural purposes (meaning they are not intended to carry the loads/stresses of the airplane itself) also are assessed. For example, the regulations include extensive requirements regarding fire resistance. All the materials inside the cabin must meet fire resistance requirements (including such factors as flammability, out-gassing of toxic substances when exposed to fire, amount of time that they can tolerate fire, etc.). Other aspects of the airplane must also meet fire requirements, such as the amount of time the skin of the airplane can resist a fuel-fed fire on the ground (i.e. it must allow sufficient time for emergency evacuation). The materials in the vicinity of the wheels must be able to tolerate tire fires that can result from overheated brakes during worst-case braking scenarios. These few examples merely scratch the surface of the requirements associated with materials.

11. For the systems in the airplane, there are many assessments that must be conducted. For all safety-related systems, comprehensive assessments must be conducted to evaluate all potential ways in which the systems can fail, the safety implications of those failures, likelihood each failure, and what failure mitigations are needed to provide the required level of safety. Even for systems with no safety-related functions (such as some passenger entertainment systems), it is still necessary to conduct assessment of the heat generated by the equipment, the effect of the equipment's weight (e.g. on the crashworthiness of the seats in which it may be installed), the safety of the wiring that feeds power to the equipment, etc.

12. Continuing with the topic of wiring, there are extensive requirements regarding the safety of the wiring in the airplane. Once again, materials are critical. All wiring must be assessed to

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show that the insulation and conductor is appropriately selected for the specific application. While this may seem to be a simple issue, it is greatly complicated by the environment (temperature extremes, vibration, humidity, wind, rain, condensation), inaccessibility (especially during flight), fire resistance, weight considerations, test/inspection/maintenance requirements, etc. It is important to note that a transport airplane may include large amounts of wiring: a 737 is reported to have approximately 40 miles of wire while jumbo jets have 150-300 mile of wire.

13. Even lavatories have to meet extensive requirements, associated with materials, structural support, systems failures, fire resistance, and wiring (as discussed above), but also requirements associated with waste management, water supply, leakage, corrosion, signage, emergency oxygen, etc.

14. The discussion above is just a small sample of the topics covered by the certification effort. Note that the arenas of system and airplane performance, engines, fuel systems, crashworthiness, airplane handling qualities, flight deck design, and numerous other topics have not yet been mentioned. These, along with all of the other topics briefly described above (and more) must be addressed during certification. A careful reading of Exhibit M to my December 22, 2018 declaration will provide an overall appreciation of the scope of the regulatory requirements.

15. In the second motion at page 15, Bombardier makes the following statement: "With the assistance of the information misappropriated by the individual defendants, the **Corporate Defendants will likely save at least hundreds of millions of dollars in flight-testing and avoid several years' delay in the certification process** because the information is, again, part of Bombardier's certification playbook and identifies, among other things, the specific types of flight tests that regulators have previously approved for certification. (Burns Decl., Dkt. No. 5, ¶ 26; Complaint, Dkt. No. 1, ¶¶ 23-26, 33, 65.)." (emphasis added). As shown below, the scope of this allegation is not consistent with the scope of the information contained in the Burns and Tidd sealed exhibits:

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a. The MRJ skew detection system, which Bombardier associates with the information in Burns Sealed Exhibits A and B, would likely not be tested in flight, due to safety concerns. Therefore, the information in Burns Sealed Exhibits A and B could not provide any reduction in flight test cost.

b. The information in Burns Sealed Exhibits C, D, E, F, G, and H cover only a portion of the flight testing of the air data system. Air data system testing occurs early during flight testing and is only a very small part of the overall flight test program. The testing is straightforward using well-understood publicly available methods. It seems highly unlikely that knowledge of the information in these documents, which discuss unremarkable testing methods, would result a savings of hundreds of millions of dollars for MITAC.

c. The information in Burns Sealed Exhibits I and J is related to production testing procedures. Production testing is used to determine the airworthiness of each individual airplane as it is produced. This testing is conducted after type certification and production approval; it is unrelated to type certification. As a result, the information in these exhibits would have no impact on the certification schedule. Furthermore, as I described in my December 22, 2018 declaration, the production test procedures must be developed to match the specific design and crew procedures of the individual airplane. In addition, I stated that the airplane designers and test pilots, who will have in-depth knowledge of the airplane, are fully capable of developing the flight crew procedures needed to perform production flight tests in support of individual airplane deliveries. Therefore, the information in Burns Sealed Exhibits I and J will have no impact on certification costs or schedule, and likely no significant cost or schedule benefits for production testing.

d. The information in Tidd Sealed Exhibit A relates to the development of a Computerized Airplane Flight Manual. Such a system is not required for certification nor is it a part of airplane type certification (it would just be reviewed, prior to being accepted for use, to

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ensure that it produces results consistent with the approved AFM). Therefore, the information in Tidd Sealed Exhibit A would not have any direct impact on certification cost or schedule

16. Considering all of the above, the scope of the Burns and Tidd sealed exhibits is very limited as related to the overall breadth of the type certification process. In my opinion, the purported potential financial and schedule impact of the information in the Burns and Tidd sealed exhibits is greatly overstated, especially when considering the overall scope of transport airplane certification. The Burns and Tidd sealed exhibits relate to a tiny fraction of the scope of the certification effort. This overall effort must be managed so that it is comprehensive, consistent, integrated, and well-documented. Compliance must be shown for all the requirements for every aspect of the airplane to which they apply. A document which shows how a few regulations will be assessed for one small aspect of the airplane, while important to the program (because compliance must be shown wherever it is applicable), cannot be construed to be a broad, foundational component of the certification program. By analogy, the design of an automobile's speedometer cannot be construed to be a foundational aspect of the car's design and documentation regarding how it was evaluated cannot be construed as providing critical data that would significantly affect another manufacturer's ability to design their own automobile. Continuing with this analogy, the knowledge of the design of a competitor's speedometer would of even less value if there was a long history of manufacturers and suppliers developing speedometers, there was published guidance on how to design them, government-provided standards and test methods, and there was a pool of engineers within industry with experience designing speedometers to meet those standards. This is precisely the type of information available to the designer of an airplane air data system, which among other functions, provides a "speedometer" for the airplane.

17. Section III of the second motion purports to provide factual background material. Bombardier makes the following statement in Section C of the second motion (see page 8): "MITAC Japan has attributed the many delays to its lack of experience in navigating the

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regulatory certification process. (*Id.* at Ex. 20 (delay attributable to MITAC Japan's "underestimation of the time it needed to sort out how to validate the safety of the manufacturing process"), Ex. 21 (delay attributable to MITAC Japan learning "that it needed company-wide organization authorization (ODA), under which it would act on behalf of the certifying authority" and because MITAC Japan "had not properly documented production processes" for certification purposes); Ex. 6 (delays stemming from the fact that MITAC Japan "didn't have any experience in how to get certification'), Ex. 23 (delay due to 'concerns [the MRJ] wouldn't pass certification tests"); Ex. 25 (delay because of "revisions of certain systems and electrical configurations on the aircraft to meet the latest requirements for certification")." Several sections of this statement warrant examination

a. "(*Id.* at Ex. 20 (delay attributable to MITAC Japan's "underestimation of the time it needed to sort out how to validate the safety of the manufacturing process")." This statement refers to manufacturing processes, not design and certification of the airplane. Manufacturing approval follows after design approval (i.e. after type certification). None of the Burns and Tidd sealed exhibits are focused on manufacturing processes. Therefore, the above statement is irrelevant to the information in the Burns and Tidd sealed exhibits.

b. "Ex. 21 (delay attributable to MITAC Japan learning "that it needed company-wide organization authorization (ODA), under which it would act on behalf of the certifying authority" and because MITAC Japan "had not properly documented production processes" for certification purposes)." The first half of this statement refers to ODA, or Organization Designation Authorization. A regulatory authority may delegate, to individuals or to organizations, the authority to make certain findings of regulatory compliance on behalf of the regulatory authority. ODA is one such organizational delegation. However, the designated individual or organization is required to use the same requirements and MOCs that the regulatory authority would use. As such, whether or not MITAC has an ODA designation has no bearing on the regulatory requirements, the methods used to show compliance, or the acceptability of the

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MRJ. The second half of the statement refers to production (i.e. manufacturing) processes, not design and certification of the airplane. Production processes are documented and approved as a part of application for a Production Certificate, which is the approval to manufacture approved type designs. It is separate from and issued after the Type Certificate. Therefore, neither portion of this statement is relevant to the information in the Burns and Tidd sealed exhibits.

c. "and because MITAC Japan "had not properly documented production processes" for certification purposes)." Production processes are documented in support of production approval (i.e. issuance of a Production Certificate), not for purposes of Type Certification. As a result, this statement is not relevant to the information in the Burns and Tidd sealed exhibits.

d. "Ex. 25 (delay because of 'revisions of certain systems and electrical configurations on the aircraft to meet the latest requirements for certification')." The Burns and Tidd sealed exhibits do not refer to any recently changed regulatory requirements. Therefore, this statement is not relevant to the information in those exhibits.

C. Further descriptions of the depth of certification

18. Similarly, the exhibits I attached to my December 22, 2018 declaration do not provide a full appreciation for the depth of the certification effort. Once again, a few examples may be helpful.

19. One aspect of this "depth" is the hierarchical nature of the assessments (including both analysis and testing), down to small design details. Put another way, this is a "building block" approach. The smallest components are assessed, then small assemblies, followed by groups of assemblies, eventually working up to large scale features. For example, the wing of an airplane is made up of many parts that are components of the primary structure or which can affect that structure. Each small component is assessed for its strength, failure modes, fatigue (cracking) resistance, deformation when under stress, expansion/contraction with temperature changes, etc. These individual components might be brackets, braces, beams, skin panels, fasteners, etc. These individual components may then be attached together as they would be in the actual

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airplane and then their performance assessed as an assembly. Note that these assessments may include a combination of analyses (using computer modeling) and/or testing of physical assemblies. Then adjoining assemblies may be combined and the resultant grouping assessed. This building block approach culminates in the assessments (both analytical and physical testing) of large scale structures, such as a wing. This is an enormous task. With modern airplane design and analysis processes, many engineering hours and an enormous amount of supercomputer time are needed to perform the analysis for the wing.

20. It should be noted that Burns Sealed Exhibit A alluded to this type of analysis in the redesign of the Bombardier CRJ skew detection system ("SDS"). It was the results of this structural analysis that led Bombardier to conclude that its originally planned SDS would be inadequate. By far the largest aspect of this process was the structural analysis of the wing and control surfaces; the impact of those analysis results on the SDS was a by-product of the much larger wing and flight control structural analysis. Furthermore, since the MRJ has a different wing and flight controls design, the results of that "deep analysis" of the CRJ wing and flight controls would be inapplicable to the MRJ. After determining the results of this detailed structural analysis, Bombardier apparently (and appropriately) conducted an in-depth analysis of the preliminary CRJ SDS, evaluating the detailed characteristics and performance of each component as well as that of the overall SDS. This was how they determined that their SDS was inadequate, vis-à-vis the detailed structural analysis (i.e. their preliminary SDS design did not provide protection that was acceptable for their particular wing and flight controls design). Such an in-depth, detailed analysis and associated test regime would be inapplicable to the MRJ, which uses a different wing structure, control system design, and skew detection system design. It should also be noted that experienced and competent aviation flight control system designers would understand the need for these analyses and the basic principles regarding how to conduct them, without the need for misappropriating company proprietary information.

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21. The depth of the certification effort can also be illustrated by the air data system. First, it is important to understand the relationship between flight testing and the overall design and certification effort. Certification flight testing of the airplane is essentially the final check-off; the overall program starts years before flight testing begins. Fundamentally, flight testing is one way of showing that a particular airplane meets some performance requirement; it does not show how to design the airplane, nor does it show that a feature that performs acceptably on one airplane would also yield acceptable performance as part of some other airplane design.

22. Long before certification testing begins, starting during the earliest phases of product development, requirements (both regulatory and others, such customer-driven requirements) are identified. The requirements are refined, documented, and reviewed in an iterative process. Every requirement must have associated with it a means for "measuring" the airplane to determine if every requirement has been satisfied. This means that regulatory requirements are determined very early in the program (although they may be updated if necessitated by delays in the certification schedule).

23. The design work begins in earnest after the requirements are established, working from concepts, to architectures, to systems, to subsystems, to assemblies, and down to the smallest components. Similar steps occur for software development. The investment in this design process is enormous. It should be noted that the cost and schedule impact of redesign (due to not meeting requirements) become exponentially greater the later it occurs during the program. While flight testing is very expensive, it comes at the end of the overall program, when the potential impact of forced redesign is at its highest. Therefore, manufacturers do everything they can to ensure that their design will pass those final tests. Following that rationale, the manufacture will seek to fully understand the tests the airplane and its systems must pass as early as possible, because the nature of the expected testing will affect the affect the outcome of that testing. In principle, this means that the company must first understand the requirements; then determine the way the design will be assessed vis-à-vis the requirements; then develop the design

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based on those requirements and planned assessments; then incrementally manufacture and assemble the airplane, then perform the assessments and then confirm the design meets the requirements – flight testing is at the end of this long process. By way of analogy, imagine an automotive engineer designing the hubs to which the wheels of the car will be mounted. The engineer must select the size, strength, and number of studs and associated lug nuts that will hold the wheel in place. To do this, the engineer must understand the forces that the studs/nuts must be able to tolerate. These forces would be determined by the weight of the car, the speeds the car will experience, the maximum turn rates, the torque produced by the brakes, the expected vibrations and impact loads (e.g. from rough roads), the size and other characteristics of the wheels and tires, the expected life of the vehicle, and many more considerations. It would also be necessary to understand how all these factors will be incorporated in the design analysis and how they will be tested. Early on, if an analysis or component test shows that the tentative design will not meet requirements, making a change to the studs/nuts design may be simple and inexpensive. However, if a wheel falls off during final road testing of the vehicle, the impact to the program cost and schedule could be huge, if new hubs must be designed, analyzed, built, and tested prior to commencement of manufacturing and sales of the car. In other words, by the time the final testing occurs, most of the work is already done. It is the mountain of work leading up to final testing that determines whether or not the testing will be successful. The same is true for flight testing in an airplane development and certification program.

24. Keeping the above analogy in mind while considering and airplane air data system, the flight testing is the end of the process. Burns Sealed Exhibits C through H do not cover all aspects of the air data system, but rather, each focuses a specific aspect of the design (e.g. static source error correction, airspeed lag during takeoff acceleration, etc.). However, there are many other detailed topics that underlie the performance of the air data system. For example, the manufacturer must identify any places where water could accumulate in any of the sensors and tubing, then provide drainage and/or heating to ensure that the water cannot freeze and thereby

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interfere with the proper performance of the system. Assessments of the air data system must address the entire normal and emergency flight envelope (altitudes, airspeeds, atmospheric conditions, airplane attitudes, etc) and expected system failures or malfunctions. The assessments must address not only how that information is displayed to the pilot, but also how it is used by other systems. The possibility of hazardously misleading incorrect data must also be evaluated and mitigated. As noted in the car hub design analogy, there are many factors the designer must consider, along with how the design will accommodate each factor.

25. As can be seen by the description, the assessments (both by analysis and test) of the air data system is comprehensive and deep. The flight testing associated with the Burns Sealed Exhibits C through H is only a tiny part of the overall effort to identify air data system requirements, design the system and then show that the system complies with all the associated requirements, including regulatory requirements. The Burns and Tidd sealed exhibits include some detailed requirements and processes information but are far from a comprehensive treatment of the detailed requirements for even the small scope of systems in question. Once again, Burns Sealed Exhibits C through H represent small (but admittedly important) aspect of the deep and comprehensive requirements associated with the air data system, which is in turn only a small aspect of the overall set of certification requirements for the airplane. Finally, test results, in addition to being tied to the details of the specific design being tested, are also at the very end of overall process and do little or nothing to tell someone else how to get to a similarly successful outcome, especially with another design that differs greatly from the one for which test results might be known.

D. Further descriptions of the detail of certification

26. Finally, the exhibits I attached to my December 22, 2018 declaration do not fully convey the level of detailed analyses, testing, and documentation required for certification. Once again, some specific technical examples will be helpful.

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27. As noted earlier in the discussion of structural analysis and testing, a building block approach is used, starting from individual components and working up to larger and larger assemblies. For safety-critical structures (i.e. those that are essential for continued safe flight and landing), this analysis is particularly important. For structural elements that carry critical loads, their potential failure points are assessed, then multiple additional features or components are added to the design to carry the critical loads in case of that failure. By analogy, the number of lug nuts on the wheel of a car is determined not solely by the combined strength of the studs and nuts, but also by the amount of strength need to safely carry the structural loads if one of the nuts fails or loosens. Even for something as mundane as lug nuts, the manufacturer must fully understand all the forces that can be expected and under what conditions (including failures) and then determine the correct sizing and number of lug nuts. Obviously, for something like an airplane wing, issues such as these are orders of magnitude more difficult to address and require in-depth assessment of the design details: the stiffness of the materials; the cross-section, orientation, and length of brace; the torque on a fastener, etc. All these details, and many more, directly influence the performance of the structure. As a result, a "summary level" understanding of a design is only the barest starting point. The real work, along with the success or failure of the design, comes from the details. This fact was alluded to in Burns Sealed Exhibit A (see page 6): it wasn't until the detailed structural analysis was completed that they determined they needed to change the design. That outcome is of essentially zero benefit to MITAC, who would need to do their own detailed structural and system performance of their own design – at the detailed level – to determine the efficacy of their design. It should be noted that the design of the MRJ skew detection system is different from SDS of the Bombardier CRJ, even at the gross level.

28. The same issue is true for the air data systems. At the gross level, the Bombardier C-series air data system has a very different architecture from the MRJ. There are many differences in the details of the designs, different performance characteristics, and different

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failure vulnerabilities. Because of these differences, there was testing that Bombardier could essentially bypass but which MITAC would need to fully evaluate, e.g. pneumatic lag in the long tubes connecting the MRJ probes to the air data computer. By using a different probe technology, [redacted] The MRJ uses different probe technology with much longer distances from the pressure heads to the pressure transducers. Because of this significant difference in design details, analyses that could be avoided by Bombardier on the C-series would still need to be conducted by MITAC with respect to the MRJ. This further erodes any value (to MITAC) of the Burns Sealed Exhibits C through H regarding the C-Series air data system. Every design needs to be evaluated in detail. Fortunately, even a relatively inexperienced manufacturer such as MITAC would be able to draw on the extensive, detailed knowledge available from their air data probe supplier (Collins Aerospace), who produces both types of probe technology and has experience interfacing both types with the Collins Aerospace avionics suite installed in the MRJ.

29. The importance of the details is pervasive in the regulatory requirements, the numerous specific design characteristics of even small components, and the methods of compliance laid out in the advisory materials, industry standards, and other publicly available information. A manufacturer gains little technical help through a gross understanding of another manufacture's design architecture or test methods. It is true that this information would show that something could be done, but it does not provide the level of detail necessary to understand how bring everything together – requirements, design, analysis, test – to have a successful certification effort.

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E. Summary

30. As noted by Bombardier, the certification program for a transport airplane presents many challenging issues. The breadth, depth, and detail of work needed is daunting. It should be noted that the list of regulations provided in Exhibit M to my December 22, 2018 declaration is only the surface; many of these regulations have multiple subsections with more detailed requirements. Similarly, the list of Advisory Circulars provided in Exhibit N to my December 22, 2018 declaration provides only the general topics regarding methods of compliance; some of these documents are hundreds of pages long, providing detailed guidance on methods of compliance. In some cases, they call out even more detailed industry standards that can be used for showing compliance. This work is recorded and provided to the authorities in many documents, from overall summary plans down to detailed analyses of small components. Furthermore, there are many discussions between the manufacturer and the authorities at many levels, from overall plans and schedules down to test results for very specific design features.

31. As a result, no document (or smattering of a few random documents or meeting discussions) provides a Rosetta Stone for certification. As stated in my December 22, 2018 declaration, the information in the Burns and Tidd sealed exhibits mostly falls into one of two categories: publicly available or non-transferable. At this time, I would add the following assessment: the information in the Burns and Tidd sealed exhibits is related to such tiny aspects of the overall certification effort that is would not substantially affect MITAC's ability to conduct a successful certification program. In my opinion, Bombardier grossly overstates the value of the Burns and Tidd sealed exhibits as potentially significant contributions to the MRJ certification program.

32. An airplane design and certification effort is enormous: it covers a huge variety of issues with associated requirements, it requires a deep understanding and analysis of all aspects of the design, and depends upon a myriad of design details for success. The extremely limited scope, depth, and detail included in the Burns and Tidd sealed exhibits make them relatively minor,

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niche documents that, while necessary in the Bombardier programs for which they were developed, do not represent a significant fraction of the overall effort involved in a certification program. In addition, the Burns and Tidd sealed exhibits would not substantively increase any other manufacture's ability to conduct a successful transport airplane design and certification program. The Burns and Tidd sealed exhibits address the compliance of specific, limited aspects of certain Bombardier designs to specific regulatory requirements, without providing the breadth, depth, and details of design and analyses necessary to get to a successful outcome, beyond what a competent aviation engineer has in their basic knowledge. They do not, as Bombardier alleges, provide a roadmap for certification.

III. Special Conditions

33. On page 25 of Bombardier's second motion, there is a reference to Special Conditions:

> "Special Conditions: Mitsubishi Aircraft Corporation Model MRJ–200 Airplane, Interaction of Systems and Structures, 83 Fed. Reg. 10,559 (Mar. 12, 2018) (Special Condition for the MRJ requiring certification to include analyses of "any significant nonlinearity" (including flap skew, the very subject matter Defendant Basson misappropriated from Bombardier)."

34. General comment: The issuance of these Special Conditions in no way suggests any problems with the capabilities of MITAC nor with the adequacy of its MRJ design. Similar Special Conditions have been issued on many airplane certification programs, including those of Bombardier. Because technology changes rapidly, Special Conditions are needed to provide safety-related regulatory requirements until such time that the published regulations (e.g. 14 CFR part 25) can be updated.

35. In order to understand the implications of this reference, it is important to understand the function of Special Conditions in the certification process. It is often the case that the regulatory requirements in 14 CFR part 25 are based, in part, on some assumed level of technology. An example may be helpful:

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a. The regulations regarding flight control systems were implicitly based on mechanical systems (cables, hydraulics, etc). That is because those were the only types of flight control designs extant at the time the regulations were originally written. With the advent of fly-by-wire ("FBW") flight controls, some of those implicit assumptions were no longer appropriate. In a hydromechanical flight control system, when the pilot moves the control wheel, it moves cables that are connected to hydraulic actuators that move the control surfaces. In an FBW system, the control wheel (or joystick) is not connected directly to the flight control actuators by any mechanical means. Instead, the wheel or joystick has sensors which send signals to a flight control computer. The computer takes that input as a pilot's command for some change in the airplane state, assesses a number of other factors, such as airspeed, altitude, temperature, airplane performance characteristics, etc. and then computes and sends commands to the flight control actuators. FBW provides the potential for improved handling qualities and safety, as well as providing other benefits.

b. Because certain characteristics of an FBW differ from those of conventional hydromechanical designs, some of the existing regulations did not "fit" the new technology. So new tailored requirements were needed – such requirements are called Special Conditions. The first major airliner to have an FBW flight control system was the Airbus A320. For that program, the regulatory authorities reviewed the design, determined the shortfalls of the regulations (not shortfalls in the design) and developed a set of Special Conditions. These Special Conditions would modify, supplement, and/or replace certain existing regulatory requirements, with the intent of establishing a minimum level of safety for FBW systems that would be equivalent to the level of safety of a "conventional" design which met the extant regulations. Once negotiated and finalized, the new Special Conditions became a part of the certification basis of the airplane. As subsequent new airplanes were developed with FBW flight controls, the Special Conditions originally developed for the A320 were applied to those certification programs (sometimes with improvements, based on lessons learned, and tailored as

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needed to the design characteristics of the airplanes). The Special Conditions have been applied to every new FBW design since then and will continue to be applied until the associated requirements in 14 CFR part 25 are updated to address the issues that form the basis for these Special Conditions. The FAA has been issuing FBW Special Conditions for approximately 30 years.

36. Similarly, as various systems in the airplanes became more capable, the need for new requirements became apparent. In the past, there was essentially a certification line of demarcation between systems and structures. Their requirements were essentially separate, and they were assessed for compliance separately. However, modern system began to have more potential failure modes that could result in compromises to structures. This was a broad issue not necessarily confined to flight control systems. Quoting from one representative sample Special Conditions Document, as applied to the Bombardier Model BD-700: "Systems that affect the airplane's structural performance, either directly or as a result of failure or malfunction. That is, the airplane's systems affect how it responds in maneuver and gust conditions, and thereby affect its structural capability. These systems may also affect the aeroelastic stability of the airplane. Such systems include flight-control systems, autopilots, stability-augmentation systems, load-alleviation systems, and fuel-management systems. These systems represent novel and unusual features when compared to the technology envisioned in the current airworthiness standards."

a. After this issue was first identified, it was applied to most modern new designs, dating back to at least 2003. Since the regulations in 14 CFR part 25 have not yet been updated to incorporate the new requirements, the Special Conditions (with improvements and tailoring, as needed) continue to be issued on new programs. As of this date, these Special Conditions related to the Interaction of Systems and Structures, have been issued by the FAA on approximately 49 aircraft certification programs.

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b. It is important to understand that in cases such as those related to FBW and interactions between systems and structures, where there have been significant changes in technologies across industry and multiple airplane programs, Special Conditions are simply stop-gap measures that are used until the regulations are updated. The issuance of Special Conditions in no way implies a problem with the manufacturer or the airplane design. Instead, it recognizes a shortfall in the regulations with respect to new design features. The Special Conditions are published (both for public comment and in final form) so that industry and the public fully understand the issues and the requirements. Once issued on a specific airplane program, Special Conditions have exactly the same legal force as the basic regulations and the expectation to issue similar Special Conditions on other programs with similar novel features (novel with respect to the regulations, not necessarily with respect to industry practices) is clearly stated.

c. In view of the discussion above, it is clear that the issuance of Special Conditions regarding the Interaction of Systems and Structures, while applicable to flight control systems such as flaps, are not unique to the MRJ program. Similar Special Conditions have been issued for other manufacturer's airplanes, including those developed by Bombardier. Dealing with the issues in this family of Special Conditions has become routine in the aviation industry.

d. Attached hereto as **Exhibit V**, is a true and correct copy of the Interaction of Systems and Structures Special Condition, applied to the Bombardier Model BD-700 program. Also attached hereto as **Exhibit W**, is a true and correct copy of the Interaction of Systems and Structures Special Condition, applied to the MITAC Model MRJ-200 program.

37. In line with the discussion above, in my opinion the identification of the Special Conditions related to the Interaction of Systems and Structures is of no probative value in this case.

IV. The Relationships Between Regulatory Authorities

38. Based on a superficial review, it might be easy to erroneously assume that a relatively inexperienced (with respect to transport airplane certification) regulatory authority such as the

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JCAB would be likely to automatically and without investigation accept MOCs that other regulatory authorities have accepted. In the Borfitz declaration, found at Docket #88, Mr. Borfitz states on page 8: "There currently is no Part 25 bilateral agreement between the JCAB and FAA, which means the JCAB has not been recognized by the FAA as a competent authority for Transport Airplane Category certification. There is a current Part 25 bilateral agreement with Transport Canada, and the FAA recognizes and accepts Transport Canada certifications. This is a critical distinction, because a successful Transport Canada design approval is very likely to be acceptable to the JCAB. Thus, any Bombardier certification documentation may have enhanced credibility with the JCAB through little effort on the part of MITAC." In effect, Mr. Borfitz contends that the JCAB is likely to accept a design or test documents submitted to the JCAB showing TCCA acceptance of a similar Bombardier design feature (presumably by showing the actual Bombardier document). Putting aside for a moment the need to explain (to the JCAB) the acquisition of the documents, this assumes that the JCAB would ignore the need for their own due diligence and would simply accept these other findings by another authority on another program with a different design.

a. However, this is not likely this case for the very reason that, as Mr. Borfitz implies, it is important that one authority's knowledge, procedures and practices be accepted by the other aviation authorities. This is a critical factor in the certification of aircraft because, in general, every aircraft type used by any operator around the world must have a type certificate (or similar approval) from that operator's regulatory authority. This means, for example, that if an airline in Country X wants to purchase and operate a Boeing 777, the regulatory authorities in Country X must first grant the Boeing 777 their own type certificate (or equivalent). As a result, every airplane intended for the global aviation market must get multiple national type certificates. If every nation where an airplane is to be operated conducted a full certification program, the global distribution of aircraft would be completely impracticable. Therefore, the regulatory authorities of the "receiving" countries must rely heavily on the competence and

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integrity of the authority where the aircraft is manufactured (referred to as the "state of design"). In this fashion, while the FAA retains a certain level of involvement in the certification processes for Airbus airplanes, it relies heavily on the competence and integrity of the European Union Aviation Safety Agency (EASA) and thereby does not need to expend enormous resources duplicating the work done by EASA.

b. When a new airplane manufacturer begins an airplane development program in a country that has not yet developed airplanes, the regulatory authority for that country needs to join the "family" of authorities with that shared recognition of competence. This is the situation for the MITAC MRJ and the JCAB. The emphasis is not on the new authority accepting the findings of the established authorities. Rather, the goal is to demonstrate to those other authorities that they can rely on the new authority (in this case, the JCAB). This means the new authority must show that it can stand on its own.

c. This mutual trust and inter-reliance between the regulatory authorities is documented in bilateral agreements between the countries. The level of reliance is not all-or-nothing. Rather, the agreements often start with smaller projects, such as aircraft modifications and component approvals. As the level of competence of and trust in the developing authority increases, the scope of the bilateral agreement may be increased, with the other authorities incrementally increasing their reliance on the state of design (such as the JCAB). At this time, the JCAB is seeking to increase their recognition (in the bilateral agreements) to what is arguably the highest level: the certification of transport category airplanes.

A. Shadow Certification

39. When a developing authority seeks expansion of their bilateral agreement to include transport airplanes, the FAA typically initiates a formal program to evaluate the competence and effectiveness of that authority. Discussions and reviews of policy documents, personnel rosters, and other such exchanges are certainly helpful in the evaluations, but the only effective means to

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really gauge the authority's competence and effectiveness is to see them at work on a real airplane certification program. This type of review is called a "shadow certification project."

a. Attached hereto as **Exhibit X**, is a true and correct copy of the FAA Aircraft Certification Service Update, an organizational communication newsletter. It briefly describes the ongoing FAA Aircraft Certification Service ("AIR") shadow certification program with the JCAB and MITAC: "AIR is currently conducting a Shadow Type Validation Program (STVP) project on the Japan Civil Aviation Bureau's (JCAB) certification of the Mitsubishi Regional Jet (MRJ-200). The MRJ is scheduled to enter service in mid-2020 with over 360 orders from U.S. airlines. Eighty percent of the aircraft parts and components will be produced by the U.S. aerospace industry. The STVP for the Mitsubishi Regional Jet (MRJ) evaluates the JCAB and, in parallel, conducts a validation of the Model MRJ-200 airplane. The FAA enjoys a strong partnership with JCAB on aviation safety and aircraft certification issues. The shadow team for this particular project is comprised of 27 aircraft certification experts from various technical specialties including electrical systems, flight test, cabin safety, propulsion systems, manufacturing inspection, and other disciplines necessary to oversee Transport Category Aircraft."

b. This FAA team is carefully observing the JCAB's conduct of the certification program, while at the same time, evaluating MITAC and the MRJ airplane. In this way, the FAA can determine if the JCAB can be relied upon to make findings of compliance <u>on future programs</u> that would be consistent with FAA findings. If the outcome of the shadow program (meaning that the JCAB, MITAC, and the MRJ airplane design) are considered to have met all requirements and expectations, the FAA will validate the MRJ certification (meaning they will accept the JCAB findings and accordingly issue an FAA Type Certificate) and will likely initiate actions to approve the JCAB's requested expansion to the bilateral agreement.

c. In the context of a shadow certification program, the developing authority (in this case, the JCAB) is well-advised to directly, definitively, and overtly demonstrate their technical

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competence as well as their effectiveness and professionalism in executing the certification program in accordance with international norms. In such an environment, it would be markedly not in the best interest of the JCAB to accept unsubstantiated claims from their applicants, especially applicants who themselves are inexperienced, all under the watchful eyes of the FAA. It is important to note that aircraft certification is not a process that relies on unsubstantiated claims of compliance; every aspect of certification is open to inspection, review, and approval by the authorities. Under the umbrella of a shadow certification program, in order to help ensure the expansion of the bilateral agreement, a developing authority might actually require more than the typical level of explanation and substantiation for proposed MOCs, especially when the applicant is also inexperienced. This additional level of in-depth involvement, while seemingly burdensome, could have several potential benefits:

i. Technical knowledge: The inexperienced applicant will need to demonstrate (and if necessary, develop) a deep understanding of the requirements and the MOCs. At the same time, these interactions and explanations will help increase the authority's level of technical competence.

ii. Effectiveness: The developing authority will deepen their understanding and experience in their role overseeing the certification program. This expertise is critical for the success of future programs. In this context, success means fully compliant airplanes are developed and certificated within reasonable timeframes with a level of effort consistent with that of other primary transport aircraft authorities.

iii. Integrity and professionalism: The developing authority will demonstrate their willingness to dive into the details when appropriate and insist that the applicant fully substantiate the regulatory compliance of their designs.

B. Summary

40. The certification program such as that of the MRJ, coupled with an FAA shadow certification, is at the same time an actual airplane certification program, a learning environment

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for both the manufacturer and the authority, and a test of the authority's and manufacturer's commitment to the standards and processes underlying aircraft safety. It is likely to be less efficient than a normal program with a well-established certification authority and an applicant with a long history of working with that authority. In virtually all new airplane programs for new manufacturers, delays are commonplace. Even well-established manufacturers such as Boeing can experience significant program delays on new airplanes. For example, the Boeing 787 Dreamliner certification was delayed by approximately three years. For new entrants to the world of transport aircraft manufacturing and certification, such delays are essentially unavoidable. These are the challenging realities of aircraft certification. However, this is not just bureaucracy. The development of high levels of technical competence, integrity, and commitment to challenging standards has led to the ever-increasing safety of modern aircraft.

41. The development of common approaches and mutual trust between the regulatory authorities is a key factor in making the certification process work for the entire global aviation community. Even considering the fact that certification is a daunting endeavor, authorities actively pursue the publication of information intended to facilitate certification efficiency by clearly stating the requirements and their purposes (under the notice and comment processes governed by the Administrative Procedures Act), reducing the duplication of work (e.g. through bilateral agreements) and providing guidance to manufacturers (so that they do not expend resources performing certification work that will not be adequate for showing compliance). Underlying all of this is a foundation of demonstrating compliance with the safety-driven regulatory requirements, not just claiming compliance.

42. Furthermore, the regulatory authorities around the world strive to standardize their requirements and processes (e.g. on the regulations and MOCs), so that manufacturers do not have to do different things to satisfy different authorities. However, this does not mean that one authority blindly accepts the findings of another authority. The common approaches are developed through open, public, and often contentious debate. One authority does not simply

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accept a manufacturer's claim that something is acceptable because it is believed that some other authority accepted something similar on some other airplane program. That type of justification would not be accepted under any current, reasonable regulatory practice. I believe that an authority would be especially reluctant to even entertain such a justification while at the same time being scrutinized by the FAA under a shadow certification program.

V. The Scope of the Requested Preliminary Injunction and the Practical Implications for an Airplane Development Certification Program

43. In the proposed Order, Bombardier includes the following language: "Defendants Mitsubishi Aircraft Corporation ("MITAC Japan"), Marc-Antoine Delarche, and Keith Ayre, are hereby immediately enjoined from the following: 1) Using, accessing, imitating, copying, disclosing, or making available to any person or entity Bombardier confidential and proprietary documents with the electronic file names identified below, and/or any information or data contained therein:" Following that proposed language is list of Burns and Tidd sealed exhibits. The proposed Order goes on to enjoin: "Using, accessing, imitating, copying, disclosing, or making available to any person or entity any information derived from the information identified in paragraph 1 above."

A. Regulations

44. Depending on legal interpretation, the proposed language is so broad that it might render the MRJ uncertifiable, regardless of the design's compliance with the regulations and even if the documents were never actually provided to MITAC. Some of the information referenced is inherently required for the certification of any transport aircraft because it includes regulations to which compliance must be demonstrated prior to issuance of a type certificate.

45. Listed below are some of the specific pieces of otherwise publicly available information that this proposed order would affect:

a. Burns Sealed Exhibit A, on page 31, lists the following sections (designated by "§") of the 14 CFR part 25 regulations. Those items with the designation "CS" are EASA

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Certification Specifications, the European counterpart to the FAA part 25 regulations; those beginning with “525” are from the TCCA Airworthiness Manual, the Canadian counterpart to the FAA part 25 regulations. Many of these regulations cover broad topics of general applicability to many parts of the airplane that are unrelated to the systems discussed in the Burns and Tidd sealed exhibits:

[redacted] [redacted]
[redacted] [redacted]
[redacted] [redacted]
[redacted] [redacted]
[redacted] [redacted]
[redacted] [redacted]
[redacted]
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[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

b. Burns Sealed Exhibit C contains references to the following:

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

[redacted] [redacted]

c. Burns Sealed Exhibits D, E, F, G, H: Similarly, these exhibits contain additional specific references to regulatory requirements.

d. Tidd Sealed Exhibit A: Similarly, this exhibit explicitly calls out 13 TCCA Airworthiness Manual (AWM) chapter 25 regulations. As noted previously, these are the TCCA versions of the FAA/EASA analogous regulations. For example, Tidd Sealed Exhibit A identifies [redacted] It also appears to be equivalent to the associated JCAB requirements.

46. The regulations cited above cover broad aspects of the airplane. For example, [redacted] These and other regulations in the list are (and must be) referenced in literally hundreds of certification documents: Certification plans, test plans, test procedures, test results, and compliance summary documents. In this respect, the effective technical scope of the proposed order goes far beyond the relatively narrow topics addressed in the Burns and Tidd sealed exhibits.

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47. The certification-related documents which must refer to regulatory requirements are absolutely essential to certification. 14 CFR part 21 requires that applicants show compliance with all the applicable regulations, including those on list above.

48. Bombardier alleges that even the identification of the relevant regulations is protected information. If MITAC were enjoined from referring to these (or any applicable part 25 regulations), it would literally be impossible to achieve certification, even if the design of the airplane was, in fact, fully compliant. This is because there would be no way for MITAC to document its substantiation of compliance without referring to the regulations listed in the Burns and Tidd sealed exhibits. Even if MITAC were enjoined from using only <u>a single applicable part 25 rule as applied to a single required aspect of the design</u>, FAA certification of the airplane would be prevented. It would even be impossible to request an exemption or finding of equivalent safety for a given regulation without referring to it. As a result, if the determination is made that MITAC is enjoined from "using, accessing, imitating, copying, disclosing, or making available to any person or entity Bombardier confidential and proprietary documents with the electronic file names identified below, and/or any information or data contained therein," and if this determination enjoins any MITAC reference, in any document, to the regulations identified in the Burns and Tidd sealed exhibits, this would have the effect of completely preventing FAA certification of the MRJ. This would be true even if the airplane is fully compliant with the regulatory requirements and even if MITAC in no way actually relied on the Burns and Tidd sealed exhibits. Since the Burns and Tidd sealed exhibits also include references to Canadian and European requirements, this proposed preliminary injunction would also prevent the issuance of Type Certificates by the TCCA and EASA.

49. Another key issue is the interpretation of the term "derived from." It is important to note, as explained above, the regulations from the various authorities are linked. The corresponding regulations have nearly identical content and intent (with a limited number of exceptions) and are numbered similarly. This is to help reduce the differences in the regulations (across authorities)

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and the make cross-referencing simple. The net effect is that if the number and or title of a given regulation from one authority is known, it is typically a simple matter to cross-reference to the parallel regulation from another authority. Hypothetically, if the term "derived from" includes simple cross-referencing to the parallel rules issued by other authorities, this would have the effect of preventing certification by virtually all regulatory authorities.

50. As noted above, the Shadow Type Validation Program includes FAA validation of the JCAB Type Certificate of the MRJ and through that process, enables the expansion of the bilateral agreement between Japan and the United States. If the proposed order, in effect, prevents JCAB type certification (by preventing MITAC reference to regulatory requirements), this will also prevent FAA validation. It is unknown what effect the inability for the FAA to validate a JCAB Type Certificate would have on the desired expansion of the FAA-JCAB bilateral agreement. In other words, if the hypothetical legal interpretations of the language in the proposed order are determined to be as described above, the proposed Preliminary Injunction might impact the bilateral agreement between Japan and the United States.

B. Means of Compliance (MOC)

51. Much of the information regarding how to show compliance with regulations is publicly and readily available and would be routinely accessed by any aircraft manufacturer as a normal part of any airplane development program. The MOC guidance is typically captured in FAA Advisory Circulars (and analogous documents published by other authorities). Advisory Circulars (ACs) are specifically linked to the associated regulations. The language of Bombardier's proposed order refers to "derived" information. Hypothetically, if the linkage between regulations and their associated ACs is determined to be sufficient to consider the ACs to be "derived" from the lists of regulations cited in the Burns and Tidd sealed exhibits, then MITAC would be enjoined from referring to or using those ACs. It is my understanding that Bombardier requested that citations in my December 22, 2018 declaration to published ACs be submitted under seal. This suggests that Bombardier considers the ACs to be "derived" from the

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information in the Burns and Tidd sealed exhibits. If the MOC information in the ACs, which is routinely accessed by all airplane manufacturers, cannot be used by MITAC, it would need to identify and/or likely develop other new, unproven methods for showing compliance, which may not even be technically practicable or may not be acceptable to the authorities. Under this hypothetical situation, if no alternative practical and acceptable MOC can be developed, for even a single regulatory requirement, certification would be prevented.

C. Other Technical Information

52. In addition to specific regulatory references affected by this proposed injunction, the Burns and Tidd sealed exhibits also identify a wide variety of regulatory and industry-standard terminology and formulae. For example, Tidd Sealed Exhibit A provides a list of standard definitions and terminology for critical airplane performance parameters, standard equations of atmospheric characteristics, and numerous quotes of standard calculation methods for airplane performance. Enjoining MITAC's use of this industry standard information would leave MITAC with essentially no approved way to calculate airplane performance. This would go far beyond an impact on certification. It would essentially prevent MITAC from even flight testing their airplane because critical performance data, such as acceleration and stopping performance, minimum safe speeds, and other safety-critical airplane performance information that is required to be in the Airplane Flight Manuals could not even be calculated by MITAC. Without this information, even flight testing would be unsafe. Therefore, the regulatory authorities would not issue an Experimental Certificate of Airworthiness, which means even the flight test airplanes could not be flown. In effect, such a prohibition on the use of standard airplane performance calculation methods needed to produce absolutely essential airplane performance data would terminate the manufacturer's developmental flight test program and render the certification flight test program moot.

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D. Summary

53. If the language in the proposed order is determined to enjoin the use of or reference to the regulations listed in the Burns and Tidd sealed exhibits, the associated guidance material, standard terminology, and calculation methods, it would be impossible to acquire a type certificate for the MRJ, because MITAC would in effect be enjoined from showing compliance to a number of regulations. In accordance with certification process regulations, such as those in 14 CFR part 21 (and similar requirements from other authorities), the MRJ would not be eligible for a Type Certificate from any authorities using the cited regulations, or from any authority whose associated regulations would be considered "derived" from those listed in the Burns and Tidd sealed exhibits. In addition, since safety-critical calculations of airplane performance would also be prevented, safety-of-flight concerns would also prevent flight testing, either for development or for certification.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this ______ day of May, 2019 at _________________, Florida.

____

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CERTIFICATE OF SERVICE

I certify under penalty of perjury that on May 13, 2019, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to the email addresses indicated on the Court's Electronic Mail Notice List.

DATED this 13th day of May, 2019.

s/Jerry A. Riedinger
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EXHIBIT V

60236 Federal Register / Vol. 81, No. 170 / Thursday, September 1, 2016 / Rules and Regulations

Title 5—Administrative Personnel

PART 870—FEDERAL EMPLOYEES' GROUP LIFE INSURANCE PROGRAM

■ 1. The authority citation for part 870 is revised to read as follows:

Authority: 5 U.S.C. 8716; Subpart J also issued under section 599C of Pub. L. 101–513, 104 Stat. 2064, as amended; Sec. 870.302(a)(3)(ii) also issued under section 153 of Pub. L. 104–134, 110 Stat. 1321; Sec. 870.302(a)(3) also issued under sections 11202(f), 11232(e), and 11246(b) and (c) of Pub. L. 105–33, 111 Stat. 251, and section 7(e) of Pub. L. 105–274, 112 Stat. 2419; Sec. 870.302(a)(3) also issued under section 145 of Pub. L. 106–522, 114 Stat. 2472; Secs. 870.302(b)(8), 870.601(a), and 870.602(b) also issued under Pub. L. 110–279, 122 Stat. 2604; Subpart E also issued under 5 U.S.C. 8702(c); Sec. 870.601(d)(3) also issued under 5 U.S.C. 8706(d); Sec. 870.703(e)(1) also issued under section 502 of Pub. L. 110–177, 121 Stat. 2542; Sec. 870.705 also issued under 5 U.S.C. 8714b(c) and 8714c(c); Public Law 104–106, 110 Stat. 521.

■ 2. In § 870.701, add paragraph (f) to read as follows:

§ 870.701 Eligibility for life insurance.

* * * * *

(f) An individual's period of coverage in a life insurance plan is credited to the 5 years of service under paragraph (a)(2) of this section if:

(1) He/she participated in the Office of Thrift Supervision (OTS) life insurance plan and transferred to the Office of the Comptroller of the Currency or the Federal Deposit Insurance Corporation under the Dodd-Frank Wall Street Reform and Consumer Protection Act, Public Law 111–203; and

(2) Elected FEGLI coverage during the special enrollment period between June 1, 2012 and July 29, 2012. Evidence of the non-FEGLI period of continuous coverage will be documented in a manner designated by OPM.

[FR Doc. 2016–21077 Filed 8–31–16; 8:45 am]

BILLING CODE 6325–63–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2016–4138; Special Conditions No. 25–635–SC]

Special Conditions: Bombardier Inc., Model BD–700–2A12 and BD–700–2A13 Airplanes; Interactions of Systems and Structures

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Bombardier Inc. (Bombardier) Model BD–700–2A12 and BD–700–2A13 airplanes. These airplanes will have novel or unusual features when compared to the state of technology envisioned in the airworthiness standards for transport-category airplanes. These design features include systems that, directly or as a result of failure or malfunction, affect structural performance. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for these design features. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on Bombardier on September 1, 2016. We must receive your comments by October 17, 2016.

ADDRESSES: Send comments identified by docket number FAA–2016–4138 using any of the following methods:

- *Federal eRegulations Portal:* Go to *http://www.regulations.gov/* and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE., Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except federal holidays.
- *Fax:* Fax comments to Docket Operations at 202–493–2251.

Privacy: The FAA will post all comments it receives, without change, to *http://www.regulations.gov/*, including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the **Federal Register** published on April 11, 2000 (65 FR 19477–19478), as well as at *http://DocketsInfo.dot.gov/*.

Docket: Background documents or comments received may be read at *http://www.regulations.gov/* at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except federal holidays.

FOR FURTHER INFORMATION CONTACT: Mark Freisthler, FAA, Airframe and Cabin Safety Branch, ANM–115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98057–3356; telephone 425–227–1119; facsimile 425–227–1232.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

We will consider all comments we receive on or before the closing date for comments. We may change these special conditions based on the comments we receive.

Background

On May 30, 2012, Bombardier applied for an amendment to type certificate no. T00003NY to include the new Model BD–700–2A12 and BD–700–2A13 airplanes. These airplanes are derivatives of the Model BD–700 series of airplanes currently approved under type certificate no. T00003NY, and are marketed as the Bombardier Global 7000 (Model BD–700–2A12) and Global 8000 (Model BD–700–2A13). These airplanes are ultra-long-range, executive-interior business jets.

Type Certification Basis

Under the provisions of Title 14, Code of Federal Regulations (14 CFR) 21.101, Bombardier must show that the Model BD–700–2A12 and BD–700–2A13 airplanes meet the applicable provisions of the regulations listed in type certificate no. T00003NY, or the applicable regulations in effect on the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations (*i.e.,* 14 CFR part 25) do not contain adequate or appropriate safety standards for the BD–700–2A12 and BD–700–2A13 airplanes because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, or should any other model already included on the same type certificate be modified to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Model BD–700–2A12 and BD–700–2A13 airplanes must comply with the fuel-vent and exhaust-emission requirements of 14 CFR part 34, and the noise certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type-certification basis under § 21.101.

Novel or Unusual Design Features

The Model BD–700–2A12 and BD–700–2A13 airplanes will incorporate the following novel or unusual design features:

Systems that affect the airplane's structural performance, either directly or as a result of failure or malfunction. That is, the airplane's systems affect how it responds in maneuver and gust conditions, and thereby affect its structural capability. These systems may also affect the aeroelastic stability of the airplane. Such systems include flight-control systems, autopilots, stability-augmentation systems, load-alleviation systems, and fuel-management systems. These systems represent novel and unusual features when compared to the technology envisioned in the current airworthiness standards.

Discussion

The flight-control system of the Model BD–700–2A12 and BD–700–2A13 airplanes will consist of a full-authority fly-by-wire system with Normal and Direct modes of operation. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards. Special conditions have been applied on past airplane programs, with similar systems, to require consideration of the effects of those systems on structures.

The regulatory authorities and industry developed standardized criteria in the Aviation Rulemaking Advisory Committee (ARAC) forum based on the criteria defined in Advisory Circular (AC) 25.672–1, dated November 11, 1983. The ARAC recommendations have been incorporated in European Aviation Safety Agency (EASA) Certification Specifications (CS) 25.302 and CS–25 Appendix K. FAA rulemaking on this subject is not complete, thus the need for special conditions.

These special conditions are similar to those previously applied to other airplane models and to EASA CS 25.302. Transport Canada Civil Aviation (TCCA) plans to include CS 25.302 in the Model BD–700–2A12 and BD–700–2A13 airplanes' Canadian certification basis. The differences between these FAA special conditions and the current CS 25.302, which the FAA regards as minor, are shown below. Both these special conditions and CS 25.302:

- Specify the design load conditions to be considered. Special conditions 2(a)(i) and 2(b)(ii)(1) of these special conditions clarify that, in some cases, different load conditions are to be considered due to other special conditions or equivalent-level-of-safety findings.
- allow consideration of the probability of being in a dispatched configuration when assessing subsequent failures and potential ''continuation of flight'' loads (see special condition 2(d), below). These special conditions, however, also allow using probability when assessing failures that induce loads at the ''time of occurrence,'' whereas CS 25.302 does not. The FAA provision is relieving as compared to CS 25.302.

The FAA chooses to preserve these minor differences and go forward with this version of the special conditions.

Applicability

As discussed above, these special conditions are applicable to the Model BD–700–2A12 and BD–700–2A13 airplanes. Should Bombardier apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to the other model as well.

Conclusion

This action affects only certain novel or unusual design features on two model series of airplanes. It is not a rule of general applicability.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. Therefore, the FAA has determined that prior public notice and comment are unnecessary, and good cause exists for adopting these special conditions upon publication in the **Federal Register**. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

■ The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

■ Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Bombardier Model BD–700–2A12 and BD–700–2A13 airplanes.

For airplanes equipped with systems that affect structural performance, either directly or as a result of a failure or malfunction, the influence of these systems and their failure conditions must be taken into account when showing compliance with the requirements of 14 CFR part 25, subparts C and D.

The following criteria must be used for showing compliance with these special conditions for airplanes equipped with flight-control systems, autopilots, stability-augmentation systems, load-alleviation systems, flutter-control systems, fuel-management systems, and other systems that either directly, or as a result of failure or malfunction, affect structural performance. If these special conditions are used for other systems, it may be necessary to adapt the criteria to the specific system.

1. The criteria defined herein only address the direct structural consequences of the system responses and performance. They cannot be considered in isolation, but should be included in the overall safety evaluation of the airplane. These criteria may, in some instances, duplicate standards already established for this evaluation. These criteria are only applicable to structure the failure of which could prevent continued safe flight and landing. Specific criteria that define

acceptable limits on handling characteristics or stability requirements, when operating in the system-degraded or inoperative mode, are not provided in these special conditions.

2. Depending upon the specific characteristics of the airplane, additional studies that go beyond the criteria provided in these special conditions may be required to demonstrate the airplane's capability to meet other realistic conditions, such as alternative gust or maneuver descriptions for an airplane equipped with a load-alleviation system.

3. The following definitions are applicable to these special conditions.

a. *Structural performance:* Capability of the airplane to meet the structural requirements of 14 CFR part 25.

b. *Flight limitations:* Limitations that can be applied to the airplane flight conditions following an in-flight occurrence, and that are included in the airplane flight manual (*e.g.,* speed limitations, avoidance of severe weather conditions, etc.).

c. *Operational limitations:* Limitations, including flight limitations, that can be applied to the airplane operating conditions before dispatch (*e.g.,* fuel, payload and master minimum-equipment list limitations).

d. *Probabilistic terms:* Terms such as probable, improbable, and extremely improbable, as used in these special conditions, are the same as those used in § 25.1309.

e. *Failure condition:* This term is the same as that used in § 25.1309. However, these special conditions apply only to system-failure conditions that affect the structural performance of the airplane (*e.g.,* system-failure conditions that induce loads, change the response of the airplane to inputs such as gusts or pilot actions, or lower flutter margins).

Effects of Systems on Structures

1. *General.* The following criteria will be used in determining the influence of a system and its failure conditions on the airplane structure.

2. *System fully operative.* With the system fully operative, the following apply:

a. Limit loads must be derived in all normal operating configurations of the system from all the limit conditions specified in 14 CFR part 25, subpart C (or defined by special conditions or equivalent level of safety in lieu of those specified in subpart C), taking into account any special behavior of such a system or associated functions, or any effect on the structural performance of the airplane that may occur up to the limit loads. In particular, any significant nonlinearity (rate of displacement of control surface, thresholds, or any other system nonlinearities) must be accounted for in a realistic or conservative way when deriving limit loads from limit conditions.

b. The airplane must meet the strength requirements of 14 CFR part 25 (static strength, residual strength), using the specified factors to derive ultimate loads from the limit loads defined above. The effect of nonlinearities must be investigated beyond limit conditions to ensure that the behavior of the system presents no anomaly compared to the behavior below limit conditions. However, conditions beyond limit conditions need not be considered when it can be shown that the airplane has design features that will not allow it to exceed those limit conditions.

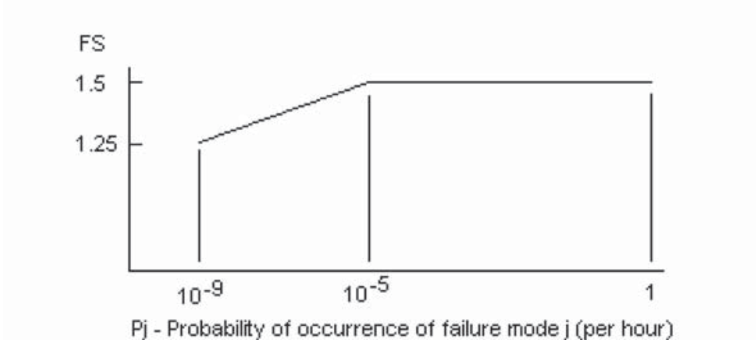
c. The airplane must meet the aeroelastic stability requirements of § 25.629.

3. *System in the failure condition.* For any system-failure condition not shown to be extremely improbable, the following apply:

a. At the time of occurrence. Starting from 1g level flight conditions, a realistic scenario, including pilot corrective actions, must be established to determine the loads occurring at the time of failure and immediately after the failure.

i. For static-strength substantiation, these loads, multiplied by an appropriate factor of safety that is related to the probability of occurrence of the failure, are ultimate loads to be considered for design. The factor of safety is defined in Figure 1, below.

Figure 1: Factor of safety (FS) at the time of occurrence



ii. For residual-strength substantiation, the airplane must be able to withstand two thirds of the ultimate loads defined in special condition 3.a.(i). For pressurized cabins, these loads must be combined with the normal operating differential pressure.

iii. Freedom from aeroelastic instability must be shown up to the speeds defined in § 25.629(b)(2). For failure conditions that result in speeds beyond V_C/M_C, freedom from aeroelastic instability must be shown to increased speeds, so that the margins intended by § 25.629(b)(2) are maintained.

iv. Failures of the system that result in forced structural vibrations (oscillatory failures) must not produce loads that could result in detrimental deformation of primary structure.

b. For the continuation of the flight. For the airplane in the system-failed state, and considering any appropriate reconfiguration and flight limitations, the following apply:

i. THE loads derived from the following conditions (or used in lieu of the following conditions) at speeds up to V_C/M_C (or the speed limitation prescribed for the remainder of the flight) must be determined:

1. The limit symmetrical maneuvering conditions specified in §§ 25.331 and 25.345.

2. The limit gust and turbulence conditions specified in §§ 25.341 and 25.345.

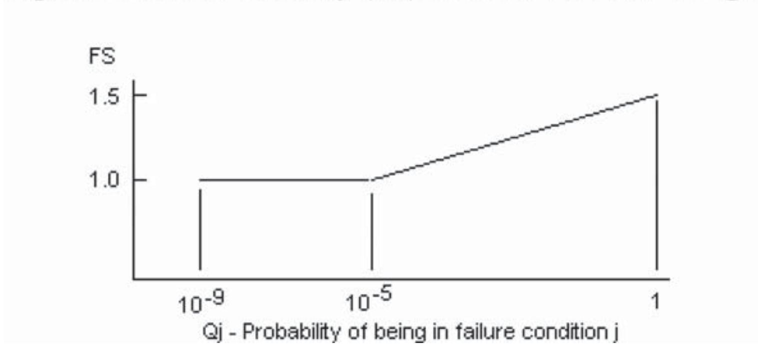
3. The limit rolling conditions specified in § 25.349, and the limit unsymmetrical conditions specified in §§ 25.367, and 25.427(b) and (c).

4. The limit yaw-maneuvering conditions specified in § 25.351.

5. The limit ground-loading conditions specified in §§ 25.473 and 25.491.

ii. For static-strength substantiation, each part of the structure must be able to withstand the loads in special condition 3.b.(i), multiplied by a factor of safety depending on the probability of being in this failure state. The factor of safety is defined in Figure 2, below.

Figure 2: Factor of safety (FS) for continuation of flight



$Q_j = (T_j)(P_j)$

Where:

Q_j = Probability of being in failure mode j
T_j = Average time spent in failure mode j (in hours)
P_j = Probability of occurrence of failure mode j (per hour)

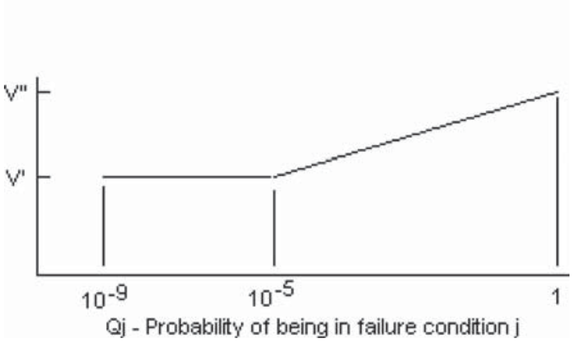
Note: If P_j is greater than 10^{-3} per flight hour, then a 1.5 factor of safety must be applied to all limit load conditions specified in 14 CFR part 25, subpart C.

iii. For residual-strength substantiation, the airplane must be able to withstand two-thirds of the ultimate loads defined in paragraph 3.b.(ii) of these special conditions. For pressurized cabins, these loads must be combined with the normal operating differential pressure.

iv. If the loads induced by the failure condition have a significant effect on fatigue or damage tolerance, then their effects must be taken into account.

v. Freedom from aeroelastic instability must be shown up to a speed determined from Figure 3, below. Flutter clearance speeds V′ and V″ may be based on the speed limitation specified for the remainder of the flight using the margins defined by § 25.629(b).

Figure 3: Clearance speed



V′ = Clearance speed as defined by § 25.629(b)(2).
V″ = Clearance speed as defined by § 25.629(b)(1).

$Q_j = (T_j)(P_j)$

Where:

Q_j = Probability of being in failure mode j
T_j = Average time spent in failure mode j (in hours)
P_j = Probability of occurrence of failure mode j (per hour)

Note: If P_j is greater than 10^{-3} per flight hour, then the flutter clearance speed must not be less than V″.

vi. Freedom from aeroelastic instability must also be shown up to V′ in Figure 3, above, for any probable system-failure condition, combined with any damage required or selected for investigation by § 25.571(b).

b. Consideration of certain failure conditions may be required by other sections of 14 CFR part 25 regardless of calculated system reliability. Where analysis shows the probability of these failure conditions to be less than 10^{-9}, criteria other than those specified in this paragraph may be used for structural substantiation to show continued safe flight and landing.

4. Failure indications. For system-failure detection and indication, the following apply:

a. The system must be checked for failure conditions, not extremely improbable, that degrade the structural capability below the level required by 14 CFR part 25, or that significantly reduce the reliability of the remaining system. As far as reasonably practicable, the flightcrew must be made aware of these failures before flight. Certain elements of the control system, such as mechanical and hydraulic components, may use special periodic inspections, and electronic components may use

daily checks, in lieu of detection and indication systems, to achieve the objective of this requirement. These certification-maintenance requirements must be limited to components that are not readily detectable by normal detection-and-indication systems, and where service history shows that inspections will provide an adequate level of safety.

b. The existence of any failure condition, not extremely improbable, during flight, that could significantly affect the structural capability of the airplane, and for which the associated reduction in airworthiness can be minimized by suitable flight limitations, must be signaled to the flightcrew. For example, failure conditions that result in a factor of safety between the airplane strength and the loads of 14 CFR part 25, subpart C below 1.25, or flutter margins below V'', must be signaled to the crew during flight.

5. *Dispatch with known failure conditions.* If the airplane is to be dispatched in a known system-failure condition that affects structural performance, or that affects the reliability of the remaining system to maintain structural performance, then the provisions of these special conditions must be met, including the provisions of special condition 2 for the dispatched condition, and special condition 3 for subsequent failures. Expected operational limitations may be taken into account in establishing P_j as the probability of failure occurrence for determining the safety margin in Figure 1. Flight limitations and expected operational limitations may be taken into account in establishing Q_j as the combined probability of being in the dispatched failure condition and the subsequent failure condition for the safety margins in Figures 2 and 3. These limitations must be such that the probability of being in this combined failure state, and then subsequently encountering limit load conditions, is extremely improbable. No reduction in these safety margins is allowed if the subsequent system-failure rate is greater than $10^{\ 3}$ per hour.

Issued in Renton, Washington, on August 23, 2016.

John P. Piccola, Jr.,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 2016–21122 Filed 8–31–16; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2016–4135; Special Conditions No. 25–636–SC]

Special Conditions: Bombardier Aerospace Inc. Model BD–700–2A12 and BD–700–2A13 Airplanes; Sidestick Controllers

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Bombardier Aerospace Inc. (Bombardier) Model BD–700–2A12 and BD–700–2A13 airplanes. These airplanes will have a novel or unusual feature when compared to the state of technology envisioned in the airworthiness standards for transport-category airplanes. This design feature is a sidestick controller, designed to be operated with only one hand, in lieu of the conventional wheel or stick controls. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on Bombardier on September 1, 2016. We must receive your comments by October 17, 2016.

ADDRESSES: Send comments identified by docket number FAA–2016–4135 using any of the following methods:

- *Federal eRegulations Portal:* Go to *http://www.regulations.gov/* and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE., Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
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Privacy: The FAA will post all comments it receives, without change, to *http://www.regulations.gov/,* including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the **Federal Register** published on April 11, 2000 (65 FR 19477–19478), as well as at *http://DocketsInfo.dot.gov/.*

Docket: Background documents or comments received may be read at *http://www.regulations.gov/* at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Todd Martin, FAA, Airframe and Cabin Safety Branch, ANM–115, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue SW., Renton, Washington 98057–3356; telephone 425–227–1178; facsimile 425–227–1232.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

We will consider all comments we receive on or before the closing date for comments. We may change these special conditions based on the comments we receive.

Background

On May 30, 2012, Bombardier applied for an amendment to type certificate no. T00003NY to include the new Model BD–700–2A12 and BD–700–2A13 airplanes. These airplanes are derivatives of the Model BD–700 series of airplanes currently approved under type certificate no. T00003NY, and are marketed as the Bombardier Global 7000 (Model BD–700–2A12) and Global 8000 (Model BD–700–2A13). These airplanes are ultra-long-range, executive-interior business jets.

Type Certification Basis

Under the provisions of Title 14, Code of Federal Regulations (14 CFR) 21.101, Bombardier must show that the Model BD–700–2A12 and BD–700–2A13 airplanes meet the applicable provisions

EXHIBIT W

Authority and Issuance

For the reasons set forth in the preamble, the Bureau amends 12 CFR part 1026 as follows:

PART 1026—TRUTH IN LENDING (REGULATION Z)

■ 1. The authority citation for part 1026 continues to read as follows:

Authority: 12 U.S.C. 2601, 2603–2605, 2607, 2609, 2617, 3353, 5511, 5512, 5532, 5581; 15 U.S.C. 1601 *et seq.*

Subpart E—Special Rules for Certain Home Mortgage Transactions

■ 2. Amend § 1026.41 by:
■ a. Revising paragraph (e)(5)(iv)(B); and
■ b. Removing paragraph (e)(5)(iv)(C).

The revision reads as follows:

§ 1026.41 Periodic statements for residential mortgage loans.

* * * * *

(e) * * *

(5) * * *

(iv) * * *

(B) *Single-statement exemption.* As of the date on which one of the events listed in paragraph (e)(5)(iv)(A) of this section occurs, a servicer is exempt from the requirements of this section with respect to the next periodic statement or coupon book that would otherwise be required but thereafter must provide modified or unmodified periodic statements or coupon books that comply with the requirements of this section.

* * * * *

■ 3. Amend Supplement I to Part 1026 as follows:
■ a. Under *Section 1026.41—Periodic Statements for Residential Mortgage Loans:*
■ i. *41(e)(5)(iv)(B) Transitional single-billing-cycle exemption* is revised; and
■ ii. *41(e)(5)(iv)(C) Timing of first modified or unmodified statement or coupon book after transition* is removed.

The revision reads as follows:

Supplement I to Part 1026—Official Interpretations

* * * * *

Section 1026.41 Periodic Statements for Residential Mortgage Loans

* * * * *

41(e)(5)(iv)(B) Single-Statement Exemption.

1. *Timing.* The exemption in § 1026.41(e)(5)(iv)(B) applies with respect to a single periodic statement or coupon book following an event listed in § 1026.41(e)(5)(iv)(A). For example, assume that a mortgage loan has a monthly billing cycle, each payment due date is on the first day of the month following its respective billing cycle, and each payment due date has a 15-day courtesy period. In this scenario:

i. If an event listed in § 1026.41(e)(5)(iv)(A) occurs on October 6, before the end of the 15-day courtesy period provided for the October 1 payment due date, and the servicer has not yet provided a periodic statement or coupon book for the billing cycle with a November 1 payment due date, the servicer is exempt from providing a periodic statement or coupon book for that billing cycle. The servicer is required thereafter to resume providing periodic statements or coupon books that comply with the requirements of § 1026.41 by providing a modified or unmodified periodic statement or coupon book for the billing cycle with a December 1 payment due date within a reasonably prompt time after November 1 or the end of the 15-day courtesy period provided for the November 1 payment due date. *See* § 1026.41(b).

ii. If an event listed in § 1026.41(e)(5)(iv)(A) occurs on October 20, after the end of the 15-day courtesy period provided for the October 1 payment due date, and the servicer timely provided a periodic statement or coupon book for the billing cycle with the November 1 payment due date, the servicer is not required to correct the periodic statement or coupon book already provided and is exempt from providing the next periodic statement or coupon book, which is the one that would otherwise be required for the billing cycle with a December 1 payment due date. The servicer is required thereafter to resume providing periodic statements or coupon books that comply with the requirements of § 1026.41 by providing a modified or unmodified periodic statement or coupon book for the billing cycle with a January 1 payment due date within a reasonably prompt time after December 1 or the end of the 15-day courtesy period provided for the December 1 payment due date. *See* § 1026.41(b).

2. *Duplicate coupon books not required.* If a servicer provides a coupon book instead of a periodic statement under § 1026.41(e)(3), § 1026.41 requires the servicer to provide a new coupon book after one of the events listed in § 1026.41(e)(5)(iv)(A) occurs only to the extent the servicer has not previously provided the consumer with a coupon book that covers the upcoming billing cycle.

3. *Subsequent triggering events.* The single-statement exemption in § 1026.41(e)(5)(iv)(B) might apply more than once over the life of a loan. For example, assume the exemption applies beginning on April 14 because the consumer files for bankruptcy on that date and the bankruptcy plan provides that the consumer will surrender the dwelling, such that the mortgage loan becomes subject to the requirements of § 1026.41(f). *See* § 1026.41(e)(5)(iv)(A)(*1*). If the consumer later exits bankruptcy on November 2 and has not discharged personal liability for the mortgage loan pursuant to 11 U.S.C. 727, 1141, 1228, or 1328, such that the mortgage loan ceases to be subject to the requirements of § 1026.41(f), the single-statement exemption would apply again beginning on November 2. *See* § 1026.41(e)(5)(iv)(A)(*2*).

* * * * *

Dated: March 6, 2018.

Mick Mulvaney,

Acting Director, Bureau of Consumer Financial Protection.

[FR Doc. 2018–04823 Filed 3–9–18; 8:45 am]

BILLING CODE 4810–AM–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA–2017–1006; Special Conditions No. 25–716–SC]

Special Conditions: Mitsubishi Aircraft Corporation Model MRJ–200 Airplane; Interaction of Systems and Structures

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Mitsubishi Aircraft Corporation (Mitsubishi) Model MRJ–200 airplane. This airplane will have novel or unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport-category airplanes. These design features are electronic flight-control systems and stability-augmentation systems that may affect the structural performance of the airplane. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on Mitsubishi on March 12, 2018. Send your comments by April 26, 2018.

ADDRESSES: Send comments identified by docket number FAA–2017–1006 using any of the following methods:

- *Federal eRegulations Portal:* Go to *http://www.regulations.gov/*and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M–30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202–493–2251.

Privacy: The FAA will post all comments it receives, without change, to *http://www.regulations.gov/,* including any personal information the commenter provides. Using the search function of the docket website, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the **Federal Register** published on April 11, 2000 (65 FR 19477–19478).

Docket: Background documents or comments received may be read at *http://www.regulations.gov/* at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Todd Martin, FAA, Airframe and Cabin Safety Section, AIR–675, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service, 1601 Lind Avenue SW, Renton, Washington 98057–3356; telephone 425–227–1178; facsimile 425–227–1320.

SUPPLEMENTARY INFORMATION: The substance of these special conditions previously has been published in the **Federal Register** for public comment. These special conditions have been derived without substantive change from those previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. Therefore, the FAA has determined that prior public notice and comment are unnecessary, and finds that, for the same reason, good cause exists for adopting these special conditions upon publication in the **Federal Register**.

Comments Invited

The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above. We invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

We will consider all comments we receive by the closing date for comments. We may change these special conditions based on the comments we receive.

Background

On August 19, 2009, Mitsubishi applied for a type certificate for their new Model MRJ–200 airplane. The Model MRJ–200 airplane is a low-wing, conventional-tail design with two wing-mounted turbofan engines. The airplane is equipped with an electronic flight-control system, has seating for 96 passengers and a maximum takeoff weight of 98,800 lbs.

Type Certification Basis

Under the provisions of title 14, Code of Federal Regulations (14 CFR) 21.17, Mitsubishi must show that the Model MRJ–200 airplane meets the applicable provisions of part 25, as amended by Amendments 25–1 through 25–141; part 36, as amended by Amendments 36–1 through 36–30; and part 34, as amended by Amendments 34–1 through the amendment effective at the time of design approval.

If the Administrator finds that the applicable airworthiness regulations (*i.e.,* 14 CFR part 25) do not contain adequate or appropriate safety standards for the Model MRJ–200 airplane because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Model MRJ–200 airplane must comply with the fuel-vent and exhaust-emission requirements of 14 CFR part 34, and the noise-certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.17.

Novel or Unusual Design Features

The Model MRJ–200 airplane will incorporate the following novel or unusual design feature:

Electronic flight-control systems and stability-augmentation systems that may affect the structural performance of the airplane.

Discussion

The MRJ–200 airplane is equipped with systems that directly or as a result of failure or malfunction, affect its structural performance. Current regulations do not take into account the effects of systems on structural performance including normal operation and failure conditions. Special conditions are needed to account for these features. These special conditions define criteria to be used in the assessment of the effects of these systems on structures. The general approach of accounting for the effect of system failures on structural performance is extended to include any system in which partial or complete failure, alone or in combination with other system partial or complete failures, would affect structural performance.

These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

These special conditions are similar to those previously applied to other airplane models.

Applicability

As discussed above, these special conditions are applicable to Model MRJ–200 airplanes. Should Mitsubishi apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on one model

of airplane. It is not a rule of general applicability.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Mitsubishi Model MRJ–200 airplanes.

For airplanes equipped with systems that affect structural performance, either directly or as a result of a failure or malfunction, the influence of these systems and their failure conditions must be taken into account when showing compliance with the requirements of 14 CFR part 25, subparts C and D.

The following criteria must be used for showing compliance with these special conditions for airplanes equipped with flight-control systems, autopilots, stability-augmentation systems, load-alleviation systems, flutter-control systems, fuel-management systems, and other systems that either directly, or as a result of failure or malfunction, affect structural performance. If these special conditions are used for other systems, it may be necessary to adapt the criteria to the specific system.

1. The criteria defined herein only address the direct structural consequences of the system responses and performance. They cannot be considered in isolation, but should be included in the overall safety evaluation of the airplane. These criteria may, in some instances, duplicate standards already established for this evaluation. These criteria are only applicable to structure the failure of which could prevent continued safe flight and landing. Specific criteria that define acceptable limits on handling characteristics or stability requirements, when operating in the system degraded or inoperative mode, are not provided in these special conditions.

2. Depending upon the specific characteristics of the airplane, additional studies that go beyond the criteria provided in these special conditions may be required to demonstrate the airplane's capability to meet other realistic conditions, such as alternative gust or maneuver descriptions for an airplane equipped with a load-alleviation system.

3. The following definitions are applicable to these special conditions.

a. *Structural performance:* Capability of the airplane to meet the structural requirements of 14 CFR part 25.

b. *Flight limitations:* Limitations that can be applied to the airplane flight conditions following an in-flight occurrence, and that are included in the airplane flight manual (*e.g.,* speed limitations, avoidance of severe weather conditions, etc.).

c. *Operational limitations:* Limitations, including flight limitations, that can be applied to the airplane operating conditions before dispatch (*e.g.,* fuel, payload and master minimum-equipment list limitations).

d. *Probabilistic terms:* Terms such as probable, improbable, and extremely improbable, as used in these special conditions, are the same as those used in § 25.1309.

e. *Failure condition:* This term is the same as that used in § 25.1309. However, these special conditions apply only to system-failure conditions that affect the structural performance of the airplane (*e.g.,* system-failure conditions that induce loads, change the response of the airplane to inputs such as gusts or pilot actions, or lower flutter margins).

Effects of Systems on Structures

The following criteria will be used in determining the influence of a system and its failure conditions on the airplane structure.

1. *System fully operative.* With the system fully operative, the following apply:

a. Limit loads must be derived in all normal operating configurations of the system from all the limit conditions specified in 14 CFR part 25, subpart C (or defined by special conditions or equivalent level of safety in lieu of those specified in subpart C), taking into account any special behavior of such a system or associated functions, or any effect on the structural performance of the airplane that may occur up to the limit loads. In particular, any significant nonlinearity (rate of displacement of control surface, thresholds, or any other system nonlinearities) must be accounted for in a realistic or conservative way when deriving limit loads from limit conditions.

b. The airplane must meet the strength requirements of 14 CFR part 25 (static strength, residual strength), using the specified factors to derive ultimate loads from the limit loads defined above. The effect of nonlinearities must be investigated beyond limit conditions to ensure that the behavior of the system presents no anomaly compared to the behavior below limit conditions. However, conditions beyond limit conditions need not be considered when it can be shown that the airplane has design features that will not allow it to exceed those limit conditions.

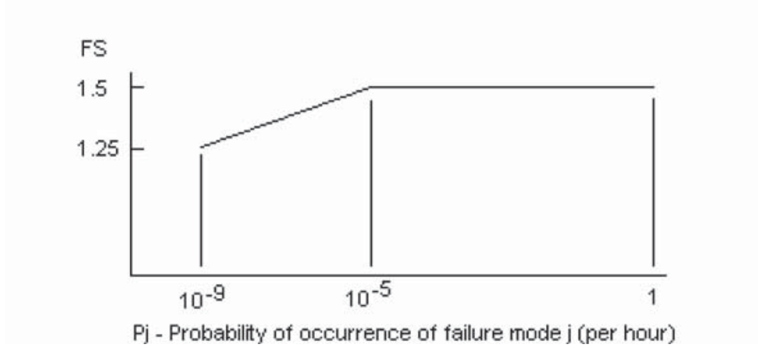
c. The airplane must meet the aeroelastic stability requirements of § 25.629.

2. *System in the failure condition.* For any system-failure condition not shown to be extremely improbable, the following apply:

a. At the time of occurrence. Starting from 1g level flight conditions, a realistic scenario, including pilot corrective actions, must be established to determine the loads occurring at the time of failure and immediately after the failure.

i. For static-strength substantiation, these loads, multiplied by an appropriate factor of safety that is related to the probability of occurrence of the failure, are ultimate loads to be considered for design. The factor of safety is defined in Figure 1, below.

Figure 1: Factor of safety (FS) at the time of occurrence



ii. For residual-strength substantiation, the airplane must be able to withstand two-thirds of the ultimate loads defined in special condition 2.a.i. For pressurized cabins, these loads must be combined with the normal operating differential pressure.

iii. Freedom from aeroelastic instability must be shown up to the speeds defined in § 25.629(b)(2). For failure conditions that result in speeds beyond V_C/M_C, freedom from aeroelastic instability must be shown to increased speeds, so that the margins intended by § 25.629(b)(2) are maintained.

iv. Failures of the system that result in forced structural vibrations (oscillatory failures) must not produce loads that could result in detrimental deformation of primary structure.

b. For the continuation of the flight. For the airplane in the system-failed state, and considering any appropriate reconfiguration and flight limitations, the following apply:

i. The loads derived from the following conditions (or used in lieu of the following conditions) at speeds up to V_C/M_C (or the speed limitation prescribed for the remainder of the flight) must be determined:

1. The limit symmetrical maneuvering conditions specified in §§ 25.331 and 25.345.

2. the limit gust and turbulence conditions specified in §§ 25.341 and 25.345.

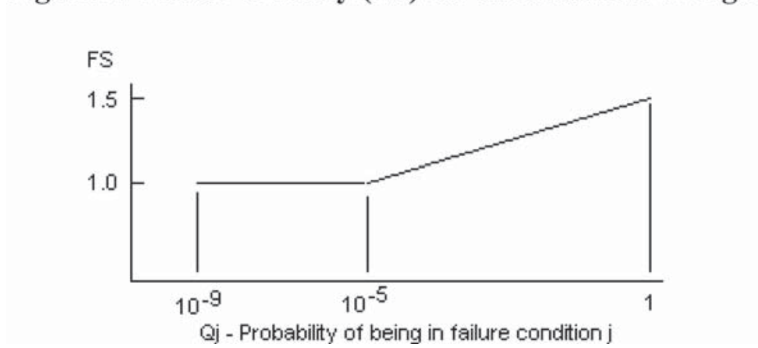
3. the limit rolling conditions specified in § 25.349, and the limit unsymmetrical conditions specified in §§ 25.367, and 25.427(b) and (c).

4. the limit yaw-maneuvering conditions specified in § 25.351.

5. the limit ground-loading conditions specified in §§ 25.473 and 25.491.

ii. For static-strength substantiation, each part of the structure must be able to withstand the loads in special condition 2.b.i., multiplied by a factor of safety depending on the probability of being in this failure state. The factor of safety is defined in Figure 2, below.

Figure 2: Factor of safety (FS) for continuation of flight



Where:
$Q_j = (T_j)(P_j)$
Q_j = Probability of being in failure mode j
T_j = Average time spent in failure mode j (in hours)
P_j = Probability of occurrence of failure mode j (per hour)

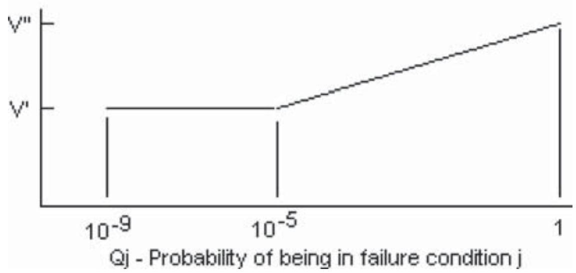
Note: If P_j is greater than 10^{-3} per flight hour, then a 1.5 factor of safety must be applied to all limit load conditions specified in 14 CFR part 25, subpart C.

iii. For residual-strength substantiation, the airplane must be able to withstand two-thirds of the ultimate loads defined in special condition 2.b.ii. For pressurized cabins, these loads must be combined with the normal operating differential pressure.

iv. If the loads induced by the failure condition have a significant effect on fatigue or damage tolerance, then their effects must be taken into account.

v. Freedom from aeroelastic instability must be shown up to a speed determined from Figure 3, below. Flutter clearance speeds V′ and V″ may be based on the speed limitation specified for the remainder of the flight using the margins defined by § 25.629(b).

Figure 3: Clearance speed



Where:

V′ = Clearance speed as defined by § 25.629(b)(2)
V″ = Clearance speed as defined by § 25.629(b)(1)
$Q_j = (T_j)(P_j)$
Q_j = Probability of being in failure mode j
T_j = Average time spent in failure mode j (in hours)
P_j = Probability of occurrence of failure mode j (per hour)

Note: If P_j is greater than 10^{-3} per flight hour, then the flutter clearance speed must not be less than V″.

vi. Freedom from aeroelastic instability must also be shown up to V′ in Figure 3, above, for any probable system-failure condition, combined with any damage required or selected for investigation by § 25.571(b).

c. Consideration of certain failure conditions may be required by other sections of 14 CFR part 25 regardless of calculated system reliability. Where analysis shows the probability of these failure conditions to be less than 10^{-9} per flight hour, criteria other than those specified in this paragraph may be used for structural substantiation to show continued safe flight and landing.

3. *Failure indications.* For system-failure detection and indication, the following apply:

a. The system must be checked for failure conditions, not extremely improbable, that degrade the structural capability below the level required by part 25, or that significantly reduce the reliability of the remaining system. As far as reasonably practicable, the flightcrew must be made aware of these failures before flight. Certain elements of the control system, such as mechanical and hydraulic components, may use special periodic inspections, and electronic components may use daily checks, in lieu of detection and indication systems, to achieve the objective of this requirement. These certification-maintenance requirements must be limited to components that are not readily detectable by normal detection-and-indication systems, and where service history shows that inspections will provide an adequate level of safety.

b. The existence of any failure condition, not extremely improbable, during flight, that could significantly affect the structural capability of the airplane, and for which the associated reduction in airworthiness can be minimized by suitable flight limitations, must be signaled to the flightcrew. For example, failure conditions that result in a factor of safety between the airplane strength and the loads of part 25, subpart C, below 1.25, or flutter margins below V″, must be signaled to the crew during flight.

4. *Dispatch with known failure conditions.* If the airplane is to be dispatched in a known system-failure condition that affects structural performance, or that affects the reliability of the remaining system to maintain structural performance, then the provisions of these special conditions must be met, including the provisions of special condition 1, ''System Fully Operative'' for the dispatched condition, and special condition 2, ''System in the Failure Condition'' for subsequent failures. Expected operational limitations may be taken into account in establishing P_j as the probability of failure occurrence for determining the safety margin in Figure 1. Flight limitations and expected operational limitations may be taken into account in establishing Q_j as the combined probability of being in the dispatched failure condition and the subsequent failure condition for the safety margins in Figures 2 and 3. These limitations must be such that the probability of being in this combined failure state, and then subsequently encountering limit load conditions, is extremely improbable. No reduction in these safety margins is allowed if the subsequent system-failure rate is greater than 10^{-3} per flight hour.

Issued in Renton, Washington, on February 22, 2018.

Victor Wicklund,

Manager, Transport Standards Branch, Policy and Innovation Division, Aircraft Certification Service.

[FR Doc. 2018–04850 Filed 3–9–18; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA–2018–0181; Product Identifier 2017–SW–085–AD; Amendment 39–19219; AD 2018–05–10]

RIN 2120–AA64

Airworthiness Directives; Agusta S.p.A. Helicopters

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for Agusta S.p.A. (Agusta) Model AB412 and AB412 EP helicopters. This AD requires removing each shoulder harness seat belt comfort clip (comfort clip) and inspecting the seat belt shoulder harness. This AD is prompted by a report of a comfort clip interfering with the seat belt inertia reel. The actions of this AD are intended to prevent an unsafe condition on these helicopters.

DATES: This AD becomes effective March 27, 2018.

We must receive comments on this AD by May 11, 2018.

ADDRESSES: You may send comments by any of the following methods:

- *Federal eRulemaking Docket:* Go to *http://www.regulations.gov.* Follow the online instructions for sending your comments electronically.
- *Fax:* 202–493–2251.

EXHIBIT X

Federal Aviation Administration
Aircraft Certification Service (AIR)

Fall Update

FEDERAL AVIATION ADMINISTRATION

Volume 2, Issue 4

A Message from the Executive Director on Global Issues

In response to an increasingly globalized aviation industry, the Aircraft Certification Service (AIR) is promoting international partnerships to reduce barriers and lead the advancement of aviation safety across geopolitical boundaries. Our strategic plan, the AIR Blueprint, details how AIR will fulfill this vision element by:

- Developing a methodical process to establish, build, and maintain confidence in foreign aviation authorities' certification systems;
- Leveraging mature partners' certification systems and maximizing mutual recognition of certification approvals to minimize inefficient duplication of effort; and
- Promoting knowledge sharing to mature the requirements of foreign safety assurance systems and actively shape global standards.

This issue highlights the recent international activities. To find out more about how AIR plans to strengthen U.S. global leadership through harmonization of rules and effective oversight of safety assurance systems, I encourage you to visit our AIR Transformation public website or send us your feedback.

- Dorenda D. Baker

For the latest news, visit the AIR Transformation public website!

FAA Strengthens Partnership with ANAC in "Next Hot Market"

The FAA delegation gathers with the ANAC DG and ANAC certification management team.

The National Civil Aviation Agency (ANAC) is one of AIR's oldest bilateral partners; a U.S.-Argentina Bilateral Aviation Agreement (BAA) was signed on June 22, 1989. As a result of a Type Certificate (TC) transfer of the new Piper Aircraft PA-25 series airplane to Argentine Lavia, SA in 1998, all related State of Design and continued airworthiness responsibilities for these aircraft under Annex 8 fall under the purview of this bilateral partner. There are over 500 Piper aircraft on the U.S. registry, and the AIR Validations Tracking System indicates over 60 U.S. design approval holders have applied to ANAC for TC and Supplemental TC (STC) validations in the past 5 to10 years.

On May 16-17, 2017, the FAA and ANAC co-hosted the 5th annual Airworthiness Seminar in Buenos Aires, Argentina to improve communications and collaboration in the South American and Caribbean region. Over 30 aviation officials attended. AIR's primary mission at the seminar was to meet with ANAC to reinvigorate the U.S.-Argentina bilateral relationship and to ascertain the Government of Argentina's interest in establishing a Bilateral Aviation Safety Agreement (BASA) with the associated Implementation Procedures for Airworthiness (IPA). AIR also seized this opportunity to discuss AIR Transformation, the new Part 23 rule that overhauls airworthiness standards for GA aircraft, and Light Sport Aircraft (LSA) initiatives. ANAC Director General Juan Irigoin confirmed Argentina's desire for the U.S. and Argentina to negotiate a BASA to replace the existing BAA. The 2018 seminar will be hosted by the Bolivia Civil Aviation Authority.

The Argentine manufacturing industry is on the rise and the new government has promised to prioritize aviation growth by supporting much-needed deregulation and infrastructure investment, with a goal of more than doubling domestic traffic by 2019. Bloomberg calls Argentina the "next hot market for the airline industry." AIR recognizes Argentina as a viable international partner and will continue strengthening a mutually-beneficial safety relationship in support of the AIR Blueprint.

In the News

New Part 23 Takes Effect

On August 30, 2017, the final rule overhauling airworthiness standards for general aviation airplanes published in December of 2016 officially went into effect. The FAA expects this rule to enable faster installation of innovative, safety enhancing technologies into small airplanes, while reducing costs for the aviation industry.

The new part 23 promotes regulatory harmonization among FAA foreign partners including EASA (E.U.), TCCA (Canada), and ANAC (Brazil). Harmonization is intended to help minimize certification costs for manufacturers and operators of affected products seeking to certify their products in the global marketplace.

Expanded Agreement with China

In August, an FAA delegation met with their Civil Aviation Administration of China (CAAC) counterparts in Xi'an, China, to finalize the text of a draft BASA Implementation Procedures for Airworthiness (IPA). FAA and CAAC will meet again in DC at the end of September to prepare the IPA for signature.

Shadow Type Validation Program of the Mitsubishi Regional Jet

FAA STVP members work closely with both Japan Civil Aviation Bureau and Mitsubishi professionals in a Mitsubishi hanger in Nagoya, Japan.

AIR is currently conducting a Shadow Type Validation Program (STVP) project on the Japan Civil Aviation Bureau's (JCAB) certification of the Mitsubishi Regional Jet (MRJ-200). The MRJ is scheduled to enter service in mid-2020 with over 360 orders from U.S. airlines. Eighty percent of the aircraft parts and components will be produced by the U.S. aerospace industry.

The STVP for the Mitsubishi Regional Jet (MRJ) evaluates the JCAB and, in parallel, conducts a validation of the Model MRJ-200 airplane. The FAA enjoys a strong partnership with JCAB on aviation safety and aircraft certification issues. The shadow team for this particular project is comprised of 27 aircraft certification experts from various technical specialties including electrical systems, flight test, cabin safety, propulsion systems, manufacturing inspection, and other disciplines necessary to oversee Transport Category Aircraft.

AIR's manufacturing inspectors are contributing to this effort by shadowing the JCAB and evaluating and validating the production, quality control, and maintenance activities of the MRJ program. This effort determines if the JCAB surveillance and oversight system is sufficiently comparable to a production approval holder in the FAA system. In other words, the STVP supports AIR's strategic vision to share knowledge to mature the requirements of foreign safety assurance systems and actively shape global standards.

Mitsubishi is conducting most of the MRJ flight test activity in the U.S. at Moses Lake, WA, where it currently has 4 flight test aircraft. Mitsubishi also recently flew one of the Moses Lake MRJ's over the Atlantic to Paris for the Paris Air Show. FAA issued Special Flight Authorizations to allow MRJ certification flight testing at Moses Lake and at other U.S. flight test locations. The agency also supported the trans-Atlantic flight to Paris.

ODA Workshop in China Promotes Knowledge-Sharing and Harmonization

On August 9-10, 2017, an Organization Designation Authorization (ODA) Workshop was held in Beijing, China to enhance global understanding of how ODAs work within the U.S. system and to explain the complex steps and levels of confidence necessary to establish ODAs while maintaining an appropriate level of safety.

Organized by the Civil Aviation Administration of China (CAAC), the U.S.-China Aviation Cooperation Program, and the U.S. Trade and Development Agency, this workshop attracted participants from the FAA and CAAC as well as both the U.S. and Chinese aviation industry (including Boeing, Textron Aviation, GE Aviation, Honeywell, Gulfstream Aerospace Corporation, and Civil Aviation Management Institute of China (CAMIC)). Each session included a presentation coupled with a dedicated question and answer period to facilitate maximum communication and interaction among participants.

By sharing knowledge in this forum, AIR aimed to promote competence and harmonization of foreign safety systems, while leveraging confidence in effective oversight and safety assurance processes. Ultimately, the goal of these and similar efforts is reduced involvement and less duplicative effort in foreign validations and approvals. Visit the AIR Blueprint for more information on AIR's strategic vision for strengthening international partnerships.

Certification Management Team (CMT) Industry Day

Mark your calendars for *September 22, 2017!*

Ottawa, Canada

Questions or comments? Email us at NATL-AVS-AIR-Communications@faa.gov